



R 82115
.Z9B325

Carnations

from . . .



LIBRARY
RECEIVED
★ OCT 13 1955
U. S. Department of Agriculture

From the dainty arrangements for the newborn babe thru dating, proms, graduation, to wedding bouquets and anniversary parties—yes, to the grave itself—thru all the seven stages of man the Carnation has added a message of welcome, a note of beauty, a touch of gaiety, a promise for the future, a wealth of fond memories, and a final word of comfort and hope. These are the things you sell—the gifts your customer gives when he sends Carnations.

And when you buy Carnation Cuttings, you deserve to get more than just a cutting—you deserve the finest cuttings money can buy. You want to be sure that when you order a variety you get that variety; that you get it when you want it; and that they are clean, sturdy, healthy cuttings that you can plant with confidence.

Since it's not always possible to judge the quality of the crop from the cutting, the next best thing is to judge the quality of the house from whom you buy, depending on its known integrity and performance.

We at Ball's are conscious of the peculiar problems of the flower grower, who must buy his seeds, plants, and bulbs like "a pig in a poke", trusting his future profits to the integrity of his suppliers; and we do our utmost to warrant that trust. Our Carnation cuttings come from only the most dependable propagators, who furnish clean, sturdy cuttings that with proper care will produce the kind of Carnations you want—the kind you would expect from cuttings furnished by Geo. J. Ball, Inc.

To be sure of the quality cuttings you need when you want them, order your Carnation cuttings from this list for delivery when your benches are ready. Fill in the quantity you need, delivery date, and your firm name and address, and send it to us in the enclosed postpaid envelope. Our Ball Service will take it from there.

These Varieties Available November 1st thru June

Quantity	Amount		WHITE	
			ROOTED CUTTINGS Per 100	Per 1000
_____	\$ _____	Frosty. Large pure white, resembles Olivette.....	\$12.00	\$100.00
_____		Hoosier Spice (Res.). Dorner Memorial Medal Winner. Pure white; good producer; fragrant.....	20.00	175.00
_____		Improved Olivette. New white.....	12.00	100.00
_____		Northland. Large, fragrant white.....	12.00	100.00
_____		Olivette. A good producer.....	10.00	90.00
_____		*Snowdrift. Snow white, blooms 4 inch diameter.....	20.00	150.00
_____		*White Boston (Res.). Sport of Boston, clean white.....	20.00	150.00
_____		White Littlefield. Pure white sport of Sidney Littlefield..	15.00	125.00
_____		White Sim. Pure white sport of Wm. Sim.....	15.00	125.00

LIGHT PINK				
_____		Catrons Shell Pink Sim. Soft pale pink.....	15.00	125.00
_____		*Edward Winkler (PAF). True pink, resembles Virginia. Minimum order 500.....	—	200.00
_____		Gordon. Light pink.....	15.00	125.00
_____		Hoosier Desire (Res.). Clear light pink, very large.....	20.00	175.00
_____		Kathleen Ann. Light pink sport of Sidney Littlefield.....	15.00	125.00
_____		Light Pink Littlefield. Similar to Hercules Virginia.....	15.00	125.00
_____		Nancy Thomson. Light pink sport of Sidney Littlefield....	15.00	125.00
_____		Light Pink Sim. Light pink.....	15.00	125.00
_____		Virginia Hercules. Large sport of Virginia.....	15.00	125.00

All prices subject to change without notice.

Carnation Cuttings—You get the best when you get them from Ball's

SALMON PINK		ROOTED CUTTINGS	
Quantity	Amount	Per 100	Per 1000
_____ \$ _____	*Calypso Sim. Deep shrimp pink sport of Wm. Sim.....	\$20.00	\$150.00
_____	Debbie. Beautiful salmon pink sport of Sim.....	20.00	150.00
_____	Evans Salmon Sim. New salmon pink.....	15.00	125.00
_____	Janie. Lighter than Netta and larger.....	15.00	125.00
_____	Petersen's Salmon Sim. New salmon pink.....	15.00	125.00
_____	Shocking Pink Sim. Brilliant dark salmon sport of Sim.....	15.00	125.00

MEDIUM PINK			
_____	Citation. Rose pink.....	15.00	125.00
_____	Virginia Rose. Uniform production; good keeper.....	10.00	90.00

DARK PINK			
_____	Boston (Res.). Dark pink; very productive.....	20.00	150.00
_____	Charlene. Beautiful large dark pink.....	15.00	125.00
_____	Saugus Pink. Deep pink.....	12.00	100.00
_____	Sidney Littlefield. Extra large; dark pink.....	15.00	125.00
_____	Virginia Miller. Dark pink Virginia.....	12.00	100.00

CRIMSON & RED			
_____	Cardinal Sim. Color similar to King Cardinal.....	15.00	125.00
_____	*Congo. New crimson.....	20.00	150.00
_____	Crimson King (Res.). New, dark crimson.....	20.00	150.00
_____	Dark Red Sim. Dark scarlet sport of Sim.....	15.00	125.00
_____	Ember Sim. Red sport of Wm. Sim.....	15.00	125.00
_____	Jumbo Cardinal. Improved Cardinal.....	15.00	125.00
_____	*Majestic (PAF). Cross on Wm. Sim—larger brighter red....	22.00	180.00
_____	Mrs. C. W. Weld. Crimson; clean healthy grower; good stem	15.00	125.00
_____	Red No. 16. Same color as King Cardinal.....	12.00	100.00
_____	*Selected Red Sim. Strain of Wm. Sim.....	18.00	150.00
_____	Tilly. Rich red maroon.....	12.00	100.00
_____	Tom Knipe (Pat.). Large, full flower.....	15.00	125.00
_____	Topper. Rich velvety maroon.....	15.00	125.00
_____	Wm. Sim (Pat.). Vivid red seedling.....	20.00	150.00
_____	Wooster Scarlet. New red.....	12.00	100.00

YELLOW			
_____	Canary Queen. Fine bright yellow.....	12.00	100.00
_____	Harvest Moon. Yellow gold.....	15.00	125.00
_____	Hoosier Gold (Res.). Yellow with faint pink stripes; not a	20.00	175.00
_____	variegated		
_____	Miller's Yellow. Good yellow.....	12.00	100.00
_____	Patten's Yellow. Clear yellow; strong stem.....	20.00	150.00
_____	Shirley Ann. Improved Miller's Yellow.....	15.00	125.00
_____	Yellow Sim. Golden yellow, similar to Harvest Moon.....	18.00	150.00

ORCHID & PURPLE			
_____	Exquisite (Res.). Purple, orchid edge.....	20.00	150.00
_____	Orchid Beauty. Novelty.....	15.00	125.00
_____	Royalty. Bright royal purple.....	18.00	150.00

Minimum Quantity 100 of a Variety Unless Otherwise Specified

VARIEGATED		ROOTED CUTTINGS	
Quantity	Amount	Per 100	Per 1000
_____ \$ _____	*Anniversary. Shade darker than Scarlet Sim.....	\$15.00	\$125.00
_____	Barbara Brigham. Apricot with pink pencilings.....	10.00	90.00
_____	Coopers Variegated Sim. White with red markings.....	15.00	125.00
_____	Desert Sun. Large prolific yellow-buff.....	12.00	100.00
_____	Gayety. White with red streaks.....	15.00	125.00
_____	Lavender Rose. Lavender rose seedling.....	15.00	125.00
_____	Mamie. White with red penciling.....	15.00	125.00
_____	Mohawk. Yellow variegated with pink stripes.....	15.00	125.00
_____	*Mrs. Christian Herter. Similar to Pelargonium.....	15.00	125.00

_____	*Peking Pink Littlefield. Dark pink to scarlet center with	22.00	180.00
_____	white tips		
_____	Pelargonium. Mottled crimson.....	15.00	125.00
_____	Peppermint Stick Littlefield. Pink variegated similar to Pink		
_____	Art	15.00	125.00
_____	Raspberry Ice. White, overlaid with pale orchid.....	12.00	100.00
_____	Sara Jane Knipe (Pat.). Brilliant rosy magenta silver edge....	20.00	150.00
_____	Scarlet King. Sport of Pelargonium.....	15.00	125.00
_____	Scarlet Littlefield. Pink, flush center with white edge on		
_____	petals; similar to Scarlet King.....	15.00	125.00
_____	Scarlet Sim. Sport of White Sim. Similar to Scarlet King.....	15.00	125.00
_____	Symphony (Pat.). Mauve, purple stripes.....	20.00	150.00
_____	Tetra-Sarah Jane (Pat.). Large flowered magenta, silver		
_____	edge	25.00	200.00
_____	Variegated Miller's Yellow. Variegated yellow.....	15.00	125.00
_____	Peppermint Sim. Red and white; red penciling.....	18.00	150.00

Following Varieties Available October 1st to August 1st

_____	*Athena. A lustrous salmon				
_____	pink, slightly deeper than				
_____	Venus and more of a true				
_____	pink than Apollo. Vigorous				
_____	habit, excellent stretch,				
_____	strong stems. Does not				
_____	split.				
_____	*Nectar. An orange yellow				
_____	variegated with broad				
_____	scarlet stripes. Flower is				
_____	flatter, more fringed and				
_____	larger than Saturn.				
_____	*White Apollo. White sport				
_____	of Apollo.				

_____	Price above 3:	50	100-250	300-450	
_____	Per 100	\$18.00	\$17.50	\$17.00	
_____		500-950	1000-Up		
_____		\$16.50	\$16.00		
_____	Vesta. Very large crimson. Dependable color retention; fast Sim stretch and				
_____	habit.				

_____	Price above:	50	100-250	300-450	500-950	1000-Up
_____	Per 100	\$15.00	\$14.50	\$14.00	\$13.50	\$13.00

*New 1955-1956 Introductions

Available October 1 to August 1

_____ \$ _____	Eros. Light pink; color similar to that of Aphrodite except that it is much				
_____	deeper in summer and early fall; vigorous heavy growth; long strong stems.				
_____	Hermes. The best dark pink for summer. Fine high temperature color, good				
_____	keeping qualities, above average production and negligible splitting. Winter				
_____	color is scarlet pink.				
_____	Juno. A medium sized, flat, well formed white flower; very full center.				
_____	Mentor. Rich rose pink during fall, winter and spring months. Smooth medium				
_____	pink during summer. Strong rigid stems, excellent keeping quality and color				
_____	retention throughout the year.				
_____	Minerva. An unusual deep scarlet-pink; fades in very high light intensity, but				
_____	fades uniformly with no white edges; heavy break-back; fine keeper.				
_____	Neptune. A scarlet Carnation (color resembles that of Wm. Sim).				
_____	Pandora. A dark pink; color has sufficient salmon in it to make it exceptionally				
_____	beautiful in artificial light. Really a new color for December through April				
_____	and early May.				
_____	Saturn. A beautiful warm bronze variegated; excellent under artificial light.				
_____	Thor. Intense scarlet of medium size especially recommended for dependable				
_____	color retention during high temperature in the summer months. Free habit				
_____	similar to that of Sim.				
_____	Titan. An intense crimson red; not quite as tall as Vulcan; gets into production				
_____	fast; very full flower and outstanding flower substance.				
_____	Vulcan. A fine flower in the crimson or maroon group; excellent keeper;				
_____	good comeback.				

Prices above 11:	50	100-250	300-450	500-950	1000-Up
Per 100	\$14.00	\$13.50	\$13.00	\$12.50	\$12.00

_____	Achilles. A large clear white; petals are deeply serrated; flower is larger than				
_____	that of Jupiter.				
_____	Aphrodite. A clear light pink, an early producer with an early comeback.				
_____	Cassandra. A lively yellow variegated; pink penciling. This flower never splits,				
_____	excellent flower substance and an outstanding keeper.				
_____	Jupiter. A large white; very strong stem; competition for Northland. The				
_____	occasional slight incurving of the petal edge is not in any way associated				
_____	with, nor does it develop into sleepiness.				
_____	Siren. A bright scarlet; a variety which combines heavy production with fast				
_____	comeback and uniform cropping on stems of medium length.				
_____	Venus. This variety, like Charm, possesses superlative flower qualities; a long				
_____	stem and a large salmon pink flower.				

Prices above 6:	50	100-250	300-450	500-950	1000-Up
Per 100	\$13.00	\$12.50	\$12.00	\$11.50	\$11.00

_____	Aurora. Another exceptionally large, white flower; as in the case of Venus,				
_____	flower size and strength of stem are emphasized in this variety. Best in				
_____	higher than average Carnation temperatures.				
_____	Midas. A good yellow.				
Prices above 2:	50	100-250	300-450	500-950	1000-Up
Per 100	\$12.00	\$11.50	\$11.00	\$10.50	\$10.00

Apollo. An outstanding salmon pink; well suited to all areas of the country, a good summer flower.						
Prices above:	50	100-250	300-450	500-950	1000-Up	
Per 100	\$11.00	\$10.50	\$10.00	\$9.50	\$9.00	

Prices for 50 or multiples of 50 of a variety per shipment. F.O.B. Ohio.

PLEASE PUT YOUR NAME AND ADDRESS HERE

Please Print

FIRM NAME

Please use same firm or greenhouse name on all orders.

STREET OR R.F.D.

CITY AND STATE

DELIVERY DATE

B9-55

LIMITATION OF WARRANTY, Geo. J. Ball, Inc., warrants to the extent of the purchase price that seeds, plants, or bulbs sold are as described on the container within recognized tolerances. Seller gives no other or further warranty, express or implied.

Carnation Culture

There are three principal ways in which Carnation cuttings are handled in establishing greenhouse flowering crops. Each has its merits, and each is practiced by a considerable number of growers. There are circumstances which tend to favor each one of the three methods described below. Here they are.

1. Field Culture

This is the time-honored method that has been practiced for a great many years and still is to a considerable extent. Cuttings are made starting in January and continuing on through early spring. As cuttings are rooted on each bench, they are usually put into veneer bands—3 x 3 bands for the earliest cuttings, 2½ x 2½ inch bands for the cuttings that come out in February and March. Normally the bands are set in flats. It is important, of course, to keep the cuttings well watered and give them an occasional fertilizing while they are in the bands.

As soon as danger of frost is past, the banded plants are set out in rows in the open field. It is important that, as much as possible, Carnations are not put back into a field which was used for this purpose during the previous several years. It is impossible to sterilize soil, but at least some help on the disease problem can be obtained if rotation is practiced so that Carnations are not grown year after year in the same field. Some growers actually do sterilize outdoor "beds" usually four feet wide, plant the bed of plants 8 by 8 inches in these beds. Pinching must be a continuous process from the time of the first pinch until late summer. Most growers go over plants every week, taking out one or two of the strongest shoots from each plant as they are ready. They will break better if this is done early in the morning.

Starting early July and usually winding up by mid-July, the plants are moved from the field to their final benches in the greenhouses. Bands are usually removed at this time.

Field culture tends to produce a heavy plant with a lot of breaks by fall. The cooler outdoor temperature seems to encourage this heavier growth as compared to what is obtained where plants are left under glass clear through. Advocates of field culture claim definitely heavier production—and somewhat earlier production too. The main disadvantage is principally the hazard of picking up disease in the unsterilized field soil. Also it is considerably more work to get the plants out to the field and to dig them. A great many plants are still carried out to the field for parts of May and June and early July.

2. Indoor Culture

Indoor culture is probably the most widely practiced of the three methods at this time. Cuttings are ordered for delivery in February, March, and April, banded, potted to Jiffy-Pots or perhaps clay pots, or in some cases planted out three or four to the pot in regular greenhouse benches (nursery beds). They are left in these containers—or nursery beds—until late June or early July, at which time they are moved into the final flowering benches. This method has the big advantage of leaving the flowering benches in production through more or less the month of June—which is an important cut flower month. The same can also be said for field planting, of course. Also indoor culture does make possible keeping the plants in sterilized soil and benches throughout their life. Many growers feel they can do a better job of watering, spraying, etc. where the plants are kept in the greenhouse. To some extent, you just don't get the heavy, rapid growth that plants will make planted out to the open soil in the field—and given the cooler night temperatures that they get outdoors. Indoor culture is definitely less work than field culture. One very important point in either field culture or indoor culture is to be sure that banded or potted plants are not allowed to become checked and pot-bound. Actually around six to eight weeks is the maximum time a cutting should be allowed to remain in a pot or a band of any size. It is for this reason that, more or less, propagation of Carnations is moving later into the spring.

3. Direct Planting

Direct benching of Carnation cuttings has been a rather controversial question for the past several years. Under ideal conditions, especially where summer temperatures are moderate, really out-

standing results have come from direct planting. Cuttings are planted directly to the flowering benches. Some varieties direct benched mid-June under favorable conditions are in very heavy crop by early November—and tend to stay more or less in crop through the fall with a slump during February and March, and a good heavy second crop in April, May, and June. However, even this schedule calls for discarding the previous season's benches early in June to allow time for sterilizing, etc.—which means that much of the June crop is lost. If cuttings are direct benched back in April or early May, very definitely good results are obtained; however in this case the entire May and June crop of flowers from the previous season's plants is lost. Some growers have met this problem by direct benching a part of their planting in late April, May and through June and leaving a part of the crop out until late June, replanting these beds with plants out of Jiffy-Pots, bands, etc.

Probably the biggest trouble with direct planting of Carnation cuttings has been the tendency to poor growth and in some cases outright loss of plants due to very high summer temperatures. It seems to be one of those operations where if good, heavy, well-rooted cuttings are used, soil is in perfect condition, the man with the hose is really on his toes, and if the weather is not too terribly hot, excellent results can be obtained. However if the plants don't get a good break on each one of these points, there is a definite tendency to trouble—especially in areas where summers are very hot.

Some rather outstanding production records have been recorded on direct planting of good Carnation cuttings under favorable conditions. It is obviously the least amount of labor of any of the three methods and is certainly in line with the modern trend toward unchecked growth of all crops. However it can also be argued that the cuttings are occupying bench space for a rather long time and wide spacing, whereas under nursery bed, Jiffy-Pot or band culture, they are spaced closer during this earlier period of their growth, thus saving considerable space—at a time when space is at a premium in the greenhouse.

Conclusion. For the small to medium-sized retail grower, it would be our recommendation that cuttings be handled either in Jiffy-Pots or bands or in nursery beds prior to benching. Especially where the crop is not a large one, it's hardly worth the trouble to set up a field area for outdoor planting and give all the attention to the few plants that would be needed out in the field. Direct benching of cuttings, as pointed out above, is a rather exacting operation. It might fairly be said that ordering cuttings for delivery in perhaps late March and putting them in a 3-inch Jiffy-Pot is about the most foolproof and is certainly not as much work as field planting, and is the most likely to give a fair result in production the following season.

For the retail grower wanting to plant perhaps several benches of Carnations, our recommendation would be to order cuttings for delivery late April, set them in a 3-inch Jiffy-Pot, bench Jiffy-Pot and all in late June—to sterilized benches, of course.

More details on all the above points can be found in our BALL RED BOOK, Eighth Edition, Page 74, and also from time to time in our monthly GROWER TALKS.

Certainly of great importance in any crop of Carnations is the matter of starting with a good, clean, stocky and yet not hard cutting. Diseases on Carnations are a particularly tough problem. A great many growers have the dismaying experience year after year of seeing parts of their Carnation benches simply rot off during the summer months. The only suggestions we can offer on this are, first, to start with the very best and cleanest cuttings that are to be had. Certainly any soil used either in potting or banding, and also in final benching, should be **carefully** sterilized. Be sure to sterilize bench supports, tools, and anything else that will come in contact with the soil. If the plant does die out early in the summer, it is of great help if the plant and the soil surrounding it for a foot in all directions are removed promptly. Again be careful of re-infecting soil with tools.

Most growers carry a light shade on their Carnation houses until plants are established, then allow the glass to wash clear.